

What is claimed is:

1. A biosensor comprising
a support substrate having first and second ends,
electrodes positioned on the support substrate, the electrodes cooperating with
5 one another to define electrode arrays situated adjacent to the first end,
a spacer substrate positioned on the support substrate, and
a cover positioned on the spacer substrate, the cover cooperating with the
support substrate to define a channel including an inlet adjacent to the first end and
opposite ends, each electrode array being positioned in the channel adjacent to one of
10 the ends.
2. The biosensor of claim 1 wherein the cover and the support substrate
are formed to include a notch in general alignment with one another.
3. The biosensor of claim 2 wherein each notch is generally concave in
shape.
- 15 4. The biosensor of claim 1 wherein the spacer substrate includes a first
member extending between the ends.
5. The biosensor of claim 4 wherein the spacer substrate includes a
second member positioned between one end and the sample inlet and a third member
positioned between the opposite end and the sample inlet.
- 20 6. The biosensor of claim 4 wherein the spacer substrate includes second
and third members spaced-apart from the first member and the channel extends
between the first, second, and third members.
7. The biosensor of claim 1 wherein the sample inlet is positioned to lie
between the electrode arrays.
- 25 8. A biosensor comprising:
a support substrate,
a first electrode set positioned on the support substrate,
a second electrode set positioned on the support substrate, the first and second
electrode sets being spaced-apart from one another, and
30 a cover extending across the first and second electrode sets, the cover
cooperating with the support substrate to define a generally linear capillary channel
having opposing first and second ends and an inlet positioned between the ends and
between the first and second electrode sets.

9. The biosensor of claim 8 further comprising a spacer substrate positioned between the support substrate and the cover.

10. The biosensor of claim 9 wherein the spacer substrate includes a first member extending between the ends for the channel.

5 11. The biosensor of claim 10 wherein the spacer substrate includes a second member positioned between one end and the inlet and a third member positioned between the opposite end and the inlet.

10 12. The biosensor of claim 10 wherein the spacer substrate includes second and third members spaced-apart from the first member and the channel extends between the first, second, and third members.

13. The biosensor of claim 8 wherein the cover and the support substrate are formed to include a notch in general alignment with one another.

14. The biosensor of claim 13 wherein each notch is generally concave in shape.

15 15. The biosensor of claim 13 wherein the inlet intersects the notches.

16. A method of forming a biosensor, the method comprising the steps of:
forming spaced-apart electrode arrays on a surface of a support substrate,
placing a spacer substrate on the support substrate across the electrode arrays,
removing a portion of the spacer substrate to expose the electrode arrays,
20 placing a cover on the spacer substrate to define a capillary channel having opposite ends and extending across the electrode arrays, and
punching a notch through the support substrate, a portion of the spacer substrate, and the cover to form an inlet to the capillary channel, the inlet being positioned between the opposite ends.

25 17. The method of claim 16, wherein the punching step includes forming the inlet between the electrode arrays.

18. The method of claim 16, wherein the removing step includes the step of forming a first member and a second/third member strip and the electrode arrays are positioned between the first member and the second/third member strip.

30 19. The method of claim 18, wherein the punching step includes the step of separating the second/third member strip into a second member and a third member and the inlet extends between the second and third members.

Sub
part

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30